

Amendments In the Specification:

Please replace the paragraph beginning on page 19, line 16, with the following rewritten paragraph:

The spray is applied normal to the surface of the drum which will at this stage be rotating according to parameters fed into the computer. As the mold rotates on the mandrel the spray head moves to follow the mold surface and in particular the path of the grooves. The application of the polyurethane elastomer to the surface of the mold takes place in two stages. First, the spray is applied to the grooves of the mold which will form the helical blades of the drum. Figures 18a-f shows the various stages of construction of a solid core blade arrangement according to an alternative embodiment. Spray head 63 follows the contour of the helical groove 64 about the mold and deposits a uniform coating of polyurethane 65 against wall 66 terminating in the region of groove bottom 67. The layer applied includes a return portion 68 which provides a bed 69 into which is laid continuous glass fibre reinforced elastomer 70. Return portion 68 will form the helical blade tip and this will be strengthened by the glass fibre elastomer 70. Figure 18c shows an additional layer of polyurethane 71 sprayed over glass fibre elastomer 70 thereby completing the blade profile. The additional material strengthens the blade. In a second part of the spray operation, spray head 63 is changed to spray the polyurethane elastomer normal to the surface of the mold according to the required thickness. Additional polyurethane may be sprayed where additional thickness is required in areas of high wear. If required, multiple coats may be deposited in one or both stages. To ensure that the solid core blade profile is retained during the second spraying operation, the cavity formed by helical groove 64 is covered by polyurethane mold insert 72 as shown in figure 18d. A layer of polyurethane 73 is then sprayed over insert mold 72 and also over the outside of drum 61. This is followed by the application of a chopped glass layer 74. Figure 17e represents the stage of blade reinforcement and preparation and figure 17f represents the stage of application of the polyurethane coating over the outside of the drum following completion of the blade profile. According to one embodiment as shown by figure 18g, one or more of any additional layers, such as intermediate layer 75, may be differentially coloured with to provide wear indicators. A white pigment in the surface layer may be provided for cleaning and inspection after use.

The polyurethane is allowed to gel following which a chemical layer is sprayed onto the polyurethane surface as represented by figure 17g to ensure bonding with the next fibre reinforced composite layer. A coupling layer is applied to the remainder of the outer surface of the drum over which is applied a structural layer which is preferably a fibre reinforced composite to form a structural shell. A rigid shell is required and this is provided by sprayed composite resin and chopped glass strands completing the structural layer. The sprayed resin is hand rolled followed by clamping as shown in figures 17 i, j and k. Figures 17j and k show the clamping assembly 80 in the open and closed configurations respectively. Mold and partially completed plastics drum 68 is shown in figure 17j. Before the composite of resin and chopped glass strands has gelled the mold is located on clamp assembly 80 whereupon arms 82 and 83 are closed over the composite layer. After clamping, the mold may be inflated to ensure complete contact with the fibre reinforced composite layer. The mold 61 and drum 81 are stored for four hours until the resin is sufficiently cured for the next stage. Casting of a track ring and application of a drip flange area as previously described. The inner mold is removed as previously described and this includes removal of mold insert 72. Figure 18f shows a typical solid core blade profile 84 as described above. The blade satisfies strength requirements and is reinforced by curves in the blade profile as the blade traverses the helix about the finished drum interior. Preferred material of construction for the solid core blade will be sprayed SP85 polyurethane elastomer (85 shore A). Preferred reinforcing of the solid blade is high tensile glass fibre CC60 elastomer. Preferably, the tensile reinforcement is continuous along the length of the blades.